SEATTLE STEAMER on line

June 1999 **Volume 10** **Number 2**

DID YOU KNOW THAT? by Giovanni

We have completed the review process to fill the position left open when George Folta retired. I am pleased to announce that Vic Hall is the new inspector to cover territory N2 (see page 11). Vic has been a boiler inspector in the Puget Sound for twenty five years and he is well known by everybody in the business.

When George Folta retired, we asked Duane Starr to cover his territory on a part time basis. Duane will continue to work for the city on a part time basis until we catch up with our back-log.

The new Seattle Boiler and Pressure Vessel Code was signed into law on **June 1, 1999**. It will become effective on **July 1, 1999**.
The main change this revision brings to the business is the adoption of ASME CSD-1-1998 (Controls and Safety Devices for Automatically Fired Boilers). Because of this adoption, boil-ers with fuel input ratings of less than 12,500,000 btu/hr shall comply with the fuel train requirements of CSD-1.
In its adoption, Seattle modified some parts of CSD-1. **Combustion air, for instance**, will need to be provided in accordance with Appen-dix A of the Boiler Code, which is, in essence, taken from the 1997 Seattle Mechanical Code.

Readers interested in the revision are encouraged to purchase a copy at the permit counter on the 2nd floor of 710 2nd Avenue. CSD-1 can be purchased from the American Society of Mechanical Engineers. Their address is ASME, Three Park Avenue, New York, NY 10016-5990.

What you do not know cannot hurt you *is an old saying. What is equally true is* ***What you do not know cannot help you****. Because of that, I will include a few web site addresses.*

The Energy Code:
http://www.ci.seattle.wa.us/dclu/energy/
This site includes the sizing form used for heat loss calculations.

The Boiler and Pressure vessel Database:
http://www.ci.seattle.wa.us/dclu/scripts/boiler/boilerSearch.htm
Contains all boilers and Pressure Vessels in the city. A variety of search possibilities are available from the pull down menus.

The Boiler and Pressure Vessel Code and the Steam License:
http://www.pan.ci.seattle.wa.us/dclu/sbpvc/toc.htm
http://www.pan.ci.seattle.wa.us/dclu/liclawr4.htm

Also in this issue:

True Seven-Day Programmable Thermostats a Client Assistance Memo

The 1997 Washington State Nonresidential Energy Code requires that a true seven-day programmable thermostat be installed on mechanical systems in all commercial buildings (all occupancies other than Group R occupancy). Specifically, Section 1412.4 requires the following:

HVAC systems shall be equipped with automatic controls capable of accomplishing a reduction of energy use through control setback or equipment shutdown during periods of non-use or alternate use of the spaces served by the system. The automatic controls shall have a minimum seven-day clock and be capable of being set for seven different day types per week.

Exceptions:

1) Systems serving areas which require continuous operation at the same temperature setpoint.

2) Equipment with full load demands of 2 kW (6,8626 Btu/h) or less may be controlled by readily accessible manual off-hour controls.

To fulfill these requirements, the thermostat must have a seven day minimum clock mechanism capable of being set for seven different day types per week. **Weekday-weekend (5-2) or Weekday-Saturday-Sunday (5-1-1) thermostats do not comply with these requirements.**

To assist applicants, a list of acceptable thermostats has been compiled. All of the following thermostats are available at local retail outlets or can be ordered through local distributors. If you are unable to locate the product, call the manufacturer and they will provide the names of local sales outlets or sales representatives.

Several words of caution are in order about this list. First, the price range varies widely. Second, not all thermostats work with all space heating systems. For instance, heat pumps often require a special thermostat capable of staging the heating elements. Verify that the thermostat will work with your space heating system. Third, the products on this list are not necessarily the only acceptable products. This list will be revised as information is provided on other products.

Information to be included on Plans

- Provide note on drawing (note in specification alone is not acceptable) stating that thermostat has automatic controls having a minimum seven-day clock and is capable of being set for seven different day types per week per Energy Code Section 1412.4.
- Provide manufacturer and model number for thermostat when available.
- Provide one thermostat for each zone per Energy Code Section 1412.1

Further Information

For additional copies of this Client Assistance Memo(#404) or revised versions of it, contact DCLU at 684-8850. All Client Assistance Memos are public domain documents and may be freely copied without any special permission.

For projects within the Seattle city limits, if you need further information on the 1997 Energy Code requirements and compliance process, contact DCLU at 684-7846 or 684-8860 between 1:00 p.m. and 4:15 p.m. or visit the Energy Code website at http://www.ci.seattle.wa.us/dclu/energy/

I would like to add for those who call me for a copy of the Equipment Sizing Form (energy loss calculations) that the form and the instructions to fill it is also available on the same site.

(Continued on page 3)

(Continued from page 2)

Manufacturer	Acceptable Products
Honeywell, Inc. 9555 SE 36th St. Mercer Island, WA 98040 206-236-4042 Www.honeywell.com	T7200; T7300; T7200 D,E Series 2000*, T7300 D,E,F Series 2000*, PC8900*, Chronotherm T8611M, T8621M, Chronotherm IVT8600D*, T8601D*, T8602D*, T8611G*,T8624D*, (but not T8600, T8601, T8602, T8611A, or T8611B.)
White Rodgers 9797 Reavis Road St Louis, MO 63123 314-577-1300 Www.white-rodgers.com	1F 84-51*, 1F 87-51*. 1F 94-71, 1F 94-80, If 95-71, 1F 95-80, 1F 97-51, 1F97-71,1F 97-371*, (but not 1F 80-51, 1F82-51, 1F90-51, 1F 90-60, 1F 90-71, 1f 90-371,1F 91-71, 1F 92-71).

* indicates that a product is new to this list

WATER TREATMENT By Tim Swanson

During many of my inspection the conversation often turns to chemical treatment of boilers. The purpose of this paper is to give general guidelines to treating hot water heating boilers and steam boilers. This article is not inclusive and is not intended to replace chemical treatment programs that are already in place and working.

Steam Boilers

The following chemicals are normally found in steam boiler water treatment. However, water chemistry in one area may be different from another area so consult your chemical representative for a customized program for your boilers. I have taken the information below from excerpts of Air Force Regulations AFR 91-40.

Sodium hydroxide/ caustic soda (NaOH). The addition of caustic soda increases alkalinity (pH) and neutralizes acid conditions in the boiler water. It also provides enough free hydroxides to precipitate magnesium salts out of the water. This precipitant, magnesium hydroxide, forms as a sludge, which will not stick to the metal surfaces. Sodium hydroxide also helps the other chemicals achieve their purposes at a lower concentration by conditioning the water. How much sodium hydroxide to use varies according to the pH and how much phosphate is added to the system.

Orthophosphate (PO4) When treating water with a phosphate chemical, the phosphate combines with the calcium to form calcium phosphate. Calcium phosphate forms as a finely divided fluid sludge which circulation of the boiler water can carry out of the boiler water and be readily removed by blow down. Maintaining the proper causticity level in the boiler water with phosphate control is necessary. Calcium phosphate can become less soluble in water with low causticity and may form as scale; also, the phosphate may precipitate magnesium out of the water and form a sticky sludge deposit.

Sodium sulfite (Na2SO3) In certain instances, some corrosion may persist although the water carries enough causticity and we have de-aerated the feed water. One of the more common chemicals used is sodium sulfite. Sodium sulfite, when dissolved in water, unites with oxygen to form sodium sulfate. If we feed enough sodium sulfite into a boiler, the chemical surplus maintained in the water will remove any oxygen that gets in and keep the boiler water almost oxygen-free.

Sodium ligno-sulfonate. We need sludge dispersants in steam boilers to handle the precipitants that form in the water. Conditioning the sludge helps prevent baked-on deposits and allows bottom blow of the boiler. This compound also coats the metal parts, thereby preventing scale and oxygen corrosion.

(Continued on page 4)

(Continued from page 3)

Anti foaming agents. Sometimes common methods to prevent or control carryover will not work economically, such as excessive blow downs. Under these conditions a special anti foaming agent can be added to the boiler water. This chemical prevents formation of the steam bubbles on the boiler water surface, thereby preventing "foaming carryover." Sodium ligno-sulfonate already has three to four percent of anti foaming agent mixed in.

Amines- The salts and causticity in the boiler water are not volatile, and the condensate is generally pure water. However, carbon dioxide goes over with the steam and dissolves in the condensate, lowering the pH of the return condensate and making it acid. The carbon dioxide is more corrosive than the oxygen that may leak in at the pipe connections. However, when both are present, they intensify the problem and a definite corrosion problem is likely to exist. Carbon dioxide corrosion usually grooves and channels the bottom of the pipe (it is most pronounced just beyond the steam traps), while oxygen corrosion pits the entire pipe.

When carbon dioxide goes over with the steam, it forms in the condensate as carbonic acid. The carbonic acid causes most condensate corrosion problems. To neutralize the condensate carbonic acid, treat the boiler with an alkaline material that becomes volatile with steam. A group of volatile, alkaline compounds called amines satisfies this requirement. When fed into the boiler water, amines become volatile and form gas that flows over with the steam and returns to the boiler water where it is reused. The alkalinity of the amines builds up the condensate pH and, when used effectively, can control return line corrosion by keeping the condensate pH just on the alkaline side.

Boiler Pressure Psig	Conductivity Micromhos	Max Silica ppm	Sulfite ppm SO3	Phosphate PO4	Causticity CaCO3	Ligno-sulfonate ppm tannic acid	Amines pH
~~0 – 15~~	~~9000~~	~~200~~	~~30 – 60~~	~~N/A~~	~~300~~	~~70 – 100~~	~~7.5 – 8.0~~
16 – 149	6000	200	30 – 60	30 – 60	220	70 – 100	7.5 – 8.0
150 – 299	6000	150	30 – 60	30 – 60	220	70 – 100	7.5 – 8.0
300 – 449	5250	90	20 – 40	30 –60	180	70 – 100	7.5 – 8.0
450 – 599	4500	40	20 – 40	30 –60	170	69 – 90	7.5 – 8.0
600 – 749	3700	30	15 – 30	30 – 60	170	50 – 80	7.5 – 8.0
750 +	3000	20	15 – 30	30 – 60	170	40 – 70	7.5 – 8.0

Note: Treat pressure steam boilers that do not require makeup as hot water boilers.
Note: The limits suggested are guidelines only. Each chemical company has their own test kits with corresponding limits. Do not interchange test kits and chemicals from different companies.

Hot Water Heating Systems

Some types of chemicals used in hot–water boilers to control corrosion are Sodium Bisulfite, Sodium Carbonate (soda ash), and Chromates.

Sodium Bisulfite (NaHSO3) – This chemical can be used in some hot water systems to control high pH levels. Since it is an acid, the amount added is determined by the pH of the water. The addition of Sodium bisulfite lowers the pH of the water. The recommended level for the boiler water is 9.5-10.5.

Sodium carbonate (NaCO3) Sodium Carbonate affects water as Sodium Hydroxide; it increases the pH. This chemical is used mainly in hot water systems; if it were used in steam, it could break down and liberate carbon (CO2) into the water. Sodium Carbonate also helps prevent scale in the water as calcium carbonate sludge

(Continued on page 5)

(Continued from page 4)

Sodium Sulfite Sodium Sulfite serves the same purpose in a hot-water boiler as in a steam boiler. It removes oxygen.

The Three C's of Boiler Water Treatment

To have a successful treatment program, we must maintain three things. They are consistency, commitment, and cleanliness.

Consistency: Be consistent in the time tests are done, the method tests are done and if possible, the person doing the testing.

Commitment: When starting a chemical treatment program ensure that you are committed to the program. More damage than good can be done if chemicals are not used properly or added only "once in awhile"

Cleanliness: Do your dishes—clean all chemical test equipment prior to each use.

Other Tips

Take ownership of your chemical program. Your chemical representative is an excellent source of information to help you design and run your chemical treatment program.

Add chemicals to your boiler only after the appropriate test determines a need. This will help prevent over treating from one chemical and under treatment of another.

When your chemical representative performs their periodical testing, conduct a test simultaneously. This will ensure that you are performing the chemical test correctly and it is an excellent opportunity to ask your representative any question about your program.

RMS TITANIC REVISITED

U.S. Department of Transportation, United States Coast Guard 1519 Alaskan Way South, Staff Symbol : cvs
Seattle, WA 98134
Phone: 206-217-6180.

Dear Mr. Ranieri:

We here at the Marine Safety Office Puget Sound have enjoyed your informative news magazine for many years. Although we routinely find the articles thought provoking and enjoyable, we did note an error in the article titled "RMS TITANIC" on page 5 of the March 1999 edition. In this article, a boiler inspector and his boss are discussing the condition of the steel aboard RMS TITANIC and make reference to the fact that there were not enough lifeboats aboard to accommodate all persons aboard. The inspector, Mr. Glutz further states, incorrectly, that "ships today are not required to carry sufficient rafts and lifeboats to hold all hands."

Ocean going passenger, freight, and tank ships have long been required to have lifeboats and liferafts for everyone on board. As a direct result of the sinking of RMS TITANIC, the International Convention for the Safety of Life at Sea, or SOLAS, was established. Chapter III, Regulation 20 of the Convention requires that all passenger ships engaged on international voyages carry enough lifeboats or liferafts to accommodate the total number of persons on board.
There are similar SOLAS requirements for other types

(Continued on page 6)

(Continued from page 5)

of vessels, and there are similar requirements in U. S. regulations for domestic vessels. Although the lifesaving requirement is reduced for vessels such as ferries operating on non-international sheltered routes, a new rulemaking boosts that requirement this year, providing increased safety for the persons aboard these vessels.

Thank you for the opportunity to comment on the article. Should your readers have any questions or concerns, please contact any of our Marine Inspectors at the above number or address.

Sincerely,

John D. Dwyer
Chief, Vessel Services Department
By Direction of the
Officer in Charge, Marine Inspection

Many thanks to Mr. Dwyer for taking the time to explain this matter, and my apologies to our readership for the error. A letter from the author of the article follows.

Dear Mr. Dwyer:

Your comments about the article RMS TITANIC in the March 1999 issue of the Seattle Steamer are, of course, correct. I thank you for calling it to our attention and setting me straight. Some time ago I read an article about non-sufficient liferafts and lifeboats, and I obviously misinterpreted. On rechecking my source, I find it's about ships in sheltered Inland Waters –just as you wrote.

I am sure Mr. Ranieri will put out a correction in a subsequent issue, and once again I thank you for setting the record straight.

Since you handle marine safety inspections, perhaps you might have some interesting stories of marine boilers you have come across over the years. The Seattle Steamer would welcome any such tales.

Sincerely,

George Folta, Capt. USN (Ret.)

STEAM EXAM FORMAT REVISED By Giovanni Ranieri

For a while now DCLU has been working on redesigning the written portion of the steam exam. There were different reasons for the redesign, namely:

- To be able to manage and store the questions electronically.
- To create questions which are more focused on specific operating needs
- To produce exams at random from a larger database of questions

When we began to work on the redesign, we set he following minimum goals for the competent operator:

- To be able to explain the functions of all the controls of a typical boiler
- To know the consequences of closing or opening a circuit or resetting a function
- To be able to handle various emergencies
- To know all the possible ways of feeding a boiler

(Continued on page 7)

(Continued from page 6)

- To explain the consequences of carrying the water too high
- To explain how to blow the boiler down in a safe manner (bottom, surface, column, low water cut-off)
- To be able to start a boiler and to shut it off safely
- To demonstrate a basic knowledge of simple physical principles
- To demonstrate a basic knowledge of the steam license ordinance

Before the exam, candidates will be given the following:

1) a package containing instructions, a set of sketches, and other data from steam tables
2) a set containing approximately 50 multiple choice questions
3) a set on which to mark the answers to the questions

Questions will be numbered from 1 to 100 with reference to a component on the sketch. Component after 100 refer either to ordinance questions, or to physics. 70% will be the minimum passing grade to be admitted to the oral.

As we will be fine tuning the program, your input during or after the oral exam will be invaluable.

Sooty Natural Gas Boilers/Clogged Burner Tubes by Chris Villa

We had two close calls recently on cast iron heating boilers (hot water type) where the fireside passages became plugged with soot. Both boilers had natural gas atmospheric burner tubes. One was in the basement of a three story apartment building- the tenants smelled fumes in the middle of the night and called for help. Carbon monoxide levels of 90 ppm were found on the third floor.). The other was in a private residence, and the owner called for help when the boiler shut itself down. (spill switch?)

One boiler was 18 months and the other two years old. Since natural gas burns so cleanly, how could this happen?! Draft, combustion air, and fuel supply pressure were all checked, "okay". One common denominator in both cases was a buildup on the slots in the burner tubes.

I talked to some boiler installers, who said they had experienced similar sooting of boilers. Some possible causes we came up with are:

1) Drywall dust, sawdust, or excessive dirt and dust tend to settle on and foul the burners. If sweeping is done while a boiler is operating, the dust is sucked up into the burner with the combustion air and can foul the burner slots.

2) Condensation. A boiler operating below the dew point can condense moisture from the combusted gases. Condensation dripping on the burner tubes and cause them to corrode.

3) Burner tube oxidation. I noted a blue-gray rust-like buildup in the burner slots several months after the tubes had been cleaned. It appeared the metal between the slots had been overheated and oxidized.

The manufacturer of the boilers said they did not have enough information to establish a cause but pointed out that their operation manual required the burner tubes to be checked annually and cleaned if necessary.

Let's just say it's a good idea to:

Check the flame during any routine inspection. A series of blue cones along the tubes at the base of the flame is good! Large, elongated yellow flames with little or no blue at the base should be cause for alarm!.

Check the burner tubes annually and clean if necessary. (Refer to the manufacturer's operating manual.) Deposits in the burner slots may interfere with the gas/air mixing process by reducing flow. With the gas flow pre-set, less air would be drawn in at the front of the tubes, resulting in incomplete combustion and possibly sooting.

Check combustion air. The boiler room must have enough air. Screens on fresh air openings must be clean. Chimneys or metal vents must draft properly.

Look for other signs of poor combustion. This could be blackening (sooting) in the draft hood, around the vent termination, at vent pipe joints, or anywhere around the boiler casing. Clean soot/smudge marks after correcting a problem to facilitate future troubleshooting..

All products of combustion must be vented to the outside This means no leakage at vent pipe joints, boiler casing or draft hood; and that once vented outside the combustion gases are not being sucked back into the building at a fresh air inlet (window, door, combustion air opening, etc.)

(Continued on page 10)

Is It of Any Importance Where the High Gas Pressure Switch is Located?

by Will Harder, Boiler Supervisor

On gas train configurations some agencies show the high gas pressure switch upstream of the firing rate valve while others show it downstream. There are those of us who contend that with a gas pressure regulator failure and the high gas pressure located downstream of the firing rate valve, it is very probable the switch would not function under certain conditions. The reply to this was, "Prove it!"

Tests were done at a public school in Seattle, Washington 12-30-97, by the author, and witnessed by experienced and competent boiler industry representatives.

Boiler: Scotch Marine Wet Back, with a power burner with a natural gas minimum input 4,000 MBH, maximum 7,071 MBH. The gas train is 2-inch, double block and bleed. Two slow-opening (13 sec.), fast closing gas safety shutoff valves, with normally open vent valve in between. Gas supply to gas train 5 psig.

5 psig compressed air is introduced between the two gas safety shut-off valves. (Gas is shut off upstream by manually operated gas cock.) We elected not to use gas for the test. The downstream gas safety shutoff valve was electrically opened by means of a separate power source and fire rate valve was in low fire position. The normally opened gas vent valve was removed; air was introduced at this point.

At 5 psig air pressure upstream of the firing rate valve, the high gas pressure switch downstream of the firing rate valve did not trip. Then, 30 psig air was applied to the gas train, but the high gas pressure switch FAILED TO TRIP. This could lead to a dangerous situation; let us illustrate.

Let's assume that gas pressure in the gas train is 10" water column. Then at low fire, the gas pressure downstream of the firing rate valve will be 1" water column. (At high fire the gas pressure would be 6 inches of water, and the high gas pressure switch would be set at 8 inches water to avoid nuisance shut downs.)

Be advised that the most likely time for a regulator to fail is at low fire because this is when the regulator is working the hardest, and when it does fail the gas pressure in the gas train increases, and on the downstream side of the firing rate valve it can increase to 2" water. This is an increase of 100%. At this point the fire is so rich that it blanks out the flame scanner. Due to this loss of flame signal the combustion controller closes the safety shut off valve. So the combustion chamber is loaded with unburned gases. The burner goes into post purge, and when it again achieves a combustible state it re-ignites off the hot refractory as an explosion. What then happens is the rapid disassembly of the boiler. The solution to avoid this condition is to place the high gas pressure switch upstream of the firing rate valve so that it senses the excess pressure immediately.

The City of Seattle has recently adopted CSD-1 which requires the high gas pressure switch to be installed in the position Mr. Harder objects to, but the position was the same even before the adoption of CSD-1. Although installation of the high gas pressure switch in the position advocated by Mr. Harder would violate the Seattle Boiler and Pressure Vessel Code, this article was printed in the interest of generating a healthy conversation. Those with an opinion on the subject are encouraged to submit them to the editor.

(Continued on page 9)

(Continued from page 8)

Water Heaters on the Menu by Chris Villa

A problem we encounter in some occupancies is the spillage of combustion gases (fumes after the fuel is burned) from gas-fired water heaters into the building. Because of varying conditions (vent hood fans, make up fans, ventilation fans, etc. operating at different times) this problem can also occur in restaurants. If a hood or an exhaust fan is exhausting faster than make-up air is entering the building, the pressure differential will cause air to be drawn in to the building. In extreme cases, air can be drawn down the water heater vent pushing combustion gasses – when the water heater fires – to exit from the draft hood into the space. This can be felt as moist, warm air flowing out at the draft hood.

It is a requirement (City of Seattle Boiler and Pressure Vessel Code and Seattle Mechanical Code) that "venting systems shall be designed and constructed so as to develop a positive flow adequate to convey all combustion products to the outside atmosphere." After all, the vent pipe on the water heater is supposed to get rid of fumes, not act as a source of make-up air to the building! While a water heater vent system which is "backing up" may not be causing any immediately noticeable problems while the unit is burning cleanly, what will happen if the burner gets dirty? Answer: potentially high carbon monoxide levels can enter the room

The solution to spillage of combustion gases may be as simple as opening up a make-up air damper a little farther to allow extra make-up air into the building and equalize inside/ outside pressures. Or, some have installed a "power venter" exhaust fan in the vent for their water heater. This fan can be used to overcome the tendency to draw air backward through the water heater vent pipe. **Note:** if using a power venter, be careful when installing it. Installation must be in accordance with the manufacturer's instructions. It is best to install the fan at the point where the vent penetrates the wall or roof, rather than at the water heater; a power venter located at the water heater can pressurize the vent pipe causing leaks at the joints! Also, the power venter must be interlocked with the burner to prevent water heater firing should the fan fail to provide proper flow.

Another solution may be to seal off a water heater room from the rest of the building (no air grills in the door, seal other openings, etc.) and provide the room with its own combustion air openings to the outside. The size of the combustion air openings is based on the combined fuel input to all appliances in the room… see the Seattle boiler code for sizing.

In any case, make sure the fuel is burning cleanly, and that all the products of combustion are making it outside. Bon apetit!

Emergency Preparedness by Giovanni

During the last few meetings of the Steam License Advisory Board emergency preparedness (of which Y2K is probably a special case) was discussed. By virtue of the experience of its members (some have been or are responsible for the operation of large plants), the board felt that this experience would be beneficial to the current operators of large plants when planning for emergencies.

Changes which have occurred in the microcomputer field have altered drastically the way steam plants are being operated these days. For instance, some twenty years ago, in the event of a power failure, all the plant had to do was to start the emergency generator first, and with that restart some preferential loads up to the point steam driven auxiliaries could be used for normal operation. In modern plants where the use of microcomputers permeates the operation of boilers and auxiliaries, emergency power by itself may not be acceptable to operate some controls and instruments which do not accept "dirty" power. Also in the "good old days" it was sufficient to run the emergency generators weekly, often without load, to make sure they were ready for an emergency. In these days, this procedure may be a prelude to disaster and loading the circuits which will depend on the emergency generator may be a more reliable test.

In future issues there will be a section on Emergency Preparedness in the form of ***have you thought of?*** Those interested in contributing to this area are encouraged to contact me.

(Continued from page 7)

Watch especially for "power venters" (vent fans) which are being used to "push" the vent fumes out a horizontal vent; a pressurized vent pipe is more likely to leak at joints. Carbon monoxide alarms might be useful, but they do not take the place of proper boiler maintenance!!!

Watch for signs of condensation. Avoid operation with water below the dew point. Some condensation is normal when the boiler starts up for the first time at the beginning of the heating season, but after the boiler is warm, it should not continue to condense. Some boilers have a bypass between discharge and return lines to keep the boiler above the dew point.

WSBIA Report By James McClinton

The Washington State Boiler Inspectors Association held their 35th annual meeting at the SeaTac Holiday Inn on March 18th, 1999. We are pleased to say, as in the past, it was a very successful and informative meeting. We had a good turn out with more than one hundred attendees. There were seven door prizes given away with the grand door prize being two tickets on the Mount Rainier Scenic Railroad. This prize included the train ride, dinner for two, overnight stay and breakfast for two the following morning.

The presenters on the program were very informed on their subject matter and did an excellent job presenting their material. Those of you who did not attend this year missed a very good meeting. We look forward to even a better meeting next year, so be there, March 10, 2000, and do not miss out.

On behalf of the Washington State Boiler Inspector Association we thank our devoted sponsors, speakers, and attendees for once again making the meeting a success.

The *Steamer* is generally published quarterly by the City of Seattle, Department of Design, Construction & Land Use, Boiler Pressure Systems Inspection Section. The intent of the publication is to provide information to interested persons in related fields. Readers are welcome to submit material for publication (subject to approval). Any materials submitted for publication will become the property of the Department unless prior arrangements are made. Readers are welcome to reprint any original material (the copyrights of others must be respected); we ask only that you credit the *Steamer* as the source.

Washington State Boiler Inspectors' Association

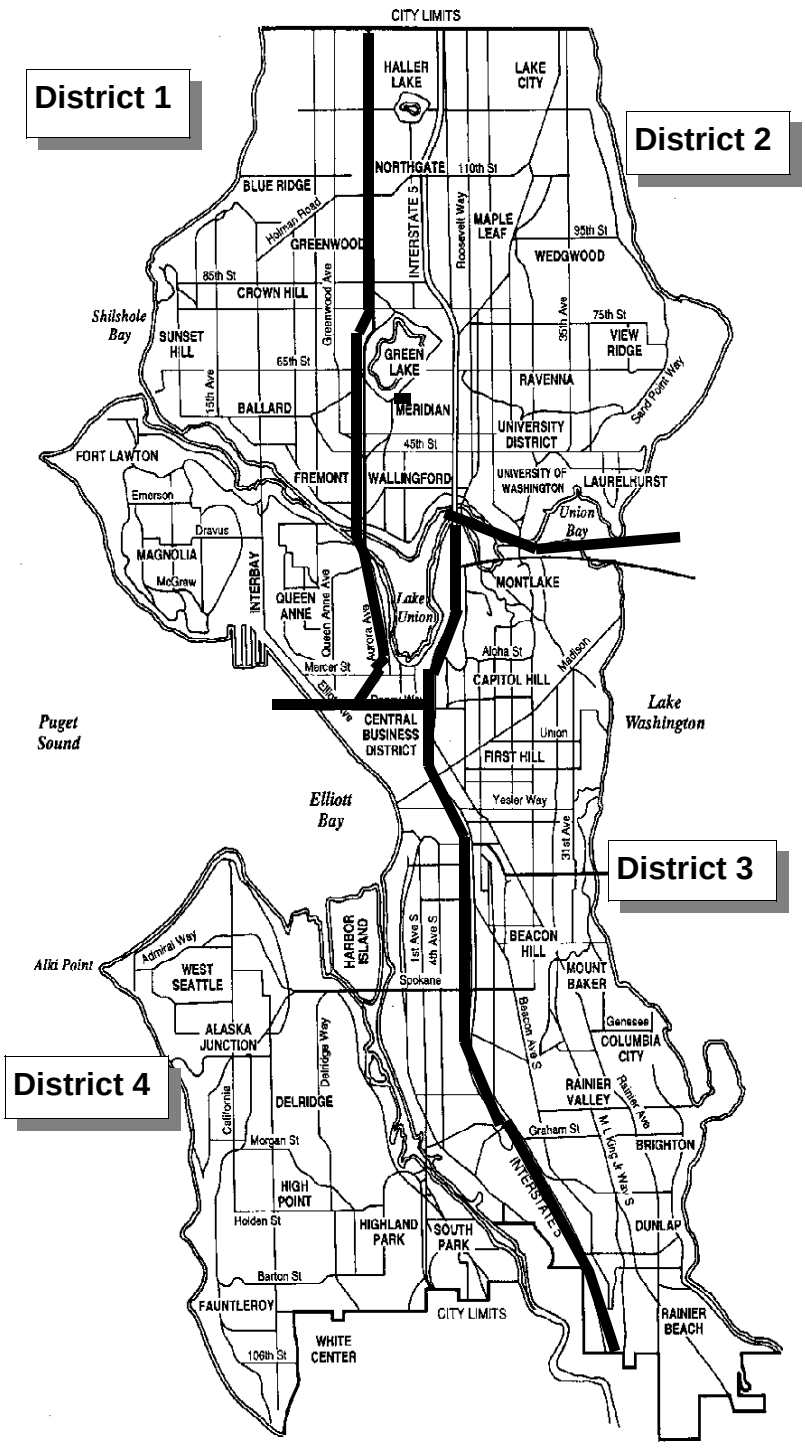
James Dorwin, Chair (425) 430-0494
Hartford Steam Boiler

Chris Villa, Vice Chair (206) 684-8460
City of Seattle, DCLU

Tim Swanson, Secretary/Treasurer
(206) 248-8287 State of Washington L&I

Monthly Meetings are held on the first *working* Monday of each month at Andy's Diner, 2963 - 4th Ave S., approximately two blocks north of Spokane Street. From I-5, take the Spokane Street exit, stay to your right, take the 4th Ave S. exit, then north a few blocks to the restaurant which will be on your left. Lunch is at noon and the meeting is called to order at 12:30 PM.

Inspection Districts in Seattle



INSPECTORS

District 1 - Chris Villa - 684-8460
District 2 –Vic Hall , 684-5366
District 3 - James McClinton, 684-8462
District 4 - Larry Leet, 684-8461

Telephone Number Reference

Seattle Dept. of Design, Construction & Land Use

Boiler Inspectors

Chris Villa 206-684-8460
Vic Hall 206-684-5366
James McClinton 206-684-8462
Larry Leet 206-684-8461
FAX **(NEW)** 206-233-7902

Chief Boiler Inspector/ Licensing Supv

Giovanni Ranieri 206-684-8459
email: giovanni.ranieri@ci.seattle.wa.us

Administrative/Inspection/ Billing Info

Gloria Martin 206-684-8418
email: gloria.martin@ci.seattle.wa.us

Steam/Refrigeration License Info/Exams

Evelyn Dunlop 206-684-5174
email: evelyn.dunlop@ci.seattle.wa.us

Seattle Public Utilities Department

Back Flow Prevention Questions/Insp.

Karen Lanning 206-684-7408
Bob Eastwood 206-233-2635
FAX 206-684-7585

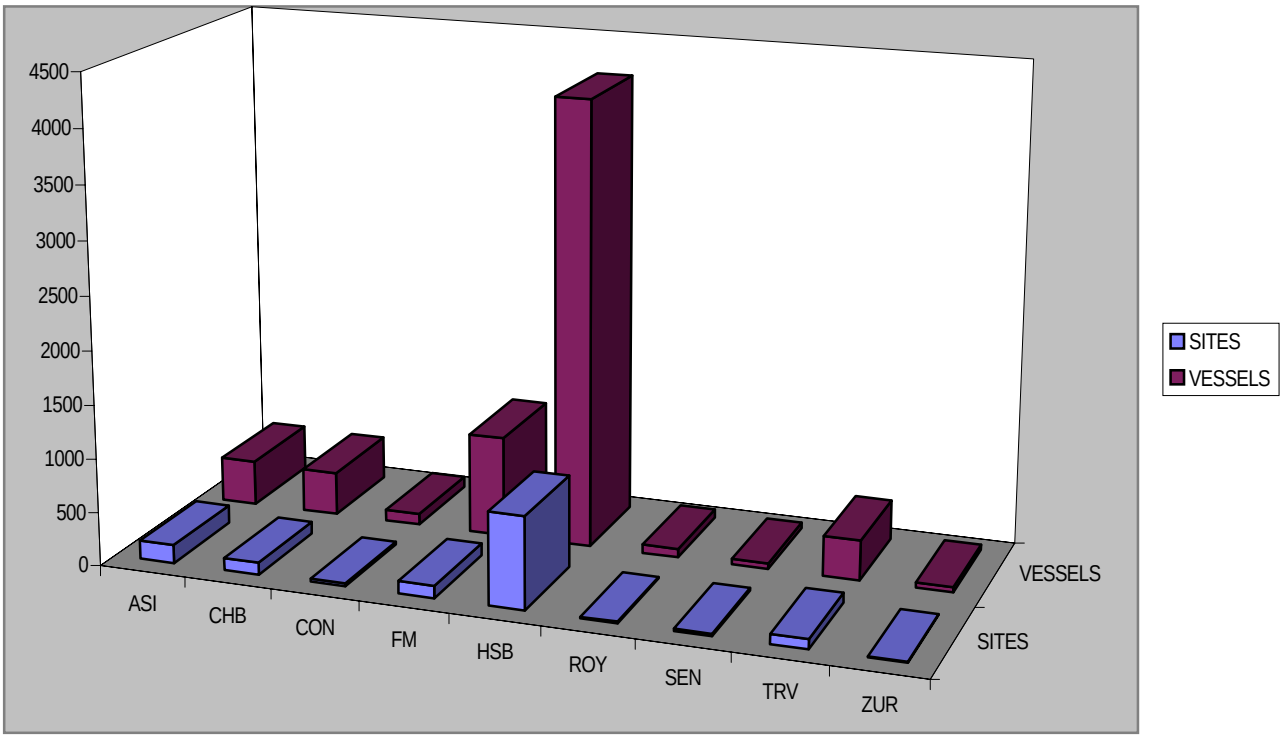
Plumbing Inspection In Seattle

Dick Andersen, Chief
206-233-7914
Ginger Ohrmundt, Permits
206-684-5198
Inspection Requests
206-233-2621

State of Washington Boiler Inspection

Olympia - Main Office
Dick Barkdoll, Chief
360-902-5270

SITES AND VESSELS CURRENTLY INSURED - AS OF JUNE 1999



The *Seattle Steamer* is printed on recycled paper with 15% post consumer waste